

In the claims:

1. (currently amended) A system comprising:

an electromyogram (EMG) system comprising at least one EMG sensor operative to sense electromyographic activity generated in a muscle and output electrical muscular activity signals;

at least one position sensor placed near said at least one EMG sensor; and

a processor in communication with said EMG system and said at least one position sensor, said processor operative to process electrical muscular activity signals of said EMG system and three-dimensional positions of said at least one EMG sensor from said at least one position sensor to provide an output and display of said electrical muscular activity signals as sensed by said at least one EMG sensor and the three-dimensional positions of said at least one EMG sensor at the same time, and further comprising a cardiotocogram (CTG) monitor in communication with said processor, said CTG monitor comprising a fetal beat-to-beat heart rate (FHR) sensor and a uterine labor activity (TOCO) sensor, and wherein said system indicates onset of premature birth based on the three-dimensional positions of said at least one EMG sensor together with TOCO information from said TOCO sensor.

2. (previously amended) The system according to claim 1, wherein said EMG system comprises at least one reference EMG sensor adapted to sense electromyographic activity generated in a reference muscle.

3. (original) The system according to claim 1, further comprising a monitor coupled to said processor and adapted to display processed information from said processor.

4. (previously amended) The system according to claim 1, further comprising a position sensing system adapted to measure the three-dimensional position and an orientation of said at least one position sensor with respect to a reference position fixed in space.

5. (canceled)

6. (currently amended) The system according to claim 5, wherein said processor is operative to process data from said CTG monitor in addition to the data of said EMG system and the three-dimensional position information from said at least one position sensor to provide an output and display of electromyographic activity data and CTG data and the three-dimensional position of said at least one EMG sensor at the same time.

7. (original) The system according to claim 1, further comprising a warning device in communication with said processor, operative to issue a warning if processed data processed by said processor is above a predefined limit.

8. (currently amended) A system comprising:

an electromyogram (EMG) system comprising at least one EMG sensor operative to sense electromyographic activity generated in a uterine muscle and output electrical muscular activity signals of said uterine muscle;

at least one position sensor placed near said at least one EMG sensor; and

a processor in communication with said EMG system and said at least one position sensor, said processor operative to process electrical muscular activity signals of said EMG system and three-dimensional positions of said at least one EMG sensor from said at least one position sensor to provide an output and display of said electrical muscular activity signals as sensed by said at least one EMG sensor and the three-dimensional positions of said at least one EMG sensor at the same time, and further comprising a cardiotocogram (CTG) monitor in communication with said processor, said CTG monitor comprising a fetal beat-to-beat heart rate (FHR) sensor and a uterine labor activity (TOCO) sensor, and wherein said system indicates onset of premature birth based on the three-dimensional positions of said at least one EMG sensor together with TOCO information from said TOCO sensor.